

1A. MOUSE AIOLOS cDNA SEQUENCE

CACGAGCGCACACCGCTCGGCTCTCCTTGCGACACGCCCTCATCCCCGGTGTT
TCTCAAGTAGACGTCCCGAGACGGTCGCTGAGGCACTGTTTCCACGCGATCA
GGGTTCCTCAGGCTTGACATTCAAAAGTGGGTGCGGAACCCGCGGCACTCGG
AGCGTGCTTTAAAGCGGCCGCCAGCCAGCGCCGCTCTAACCTCGCGCCCCGG
CTGCCGCGCGGCTCCCGCCCTGCATCTGCGCCGACGCGACCGAGCGATCCCCG
GGCTCCCTGCGCCCCGAATCTCCCGCCAGCCGCGCGGGTCCCCACGGCAGC
AGCACGTGGAGCGGCCGCGGAGCCTGAGCGACAGCTGCAGCCCCGCGCGGCC
CGCGGCGACATGGAAGATATACAACCGACTGTGGAGCTGAAAAGCACGGAG
GAGCAGCCTCTGCCCCACAGAGAGCCCAGACGCTCTGAATGACTACAGCTTGC
CCAAACCTCATGAGATAGAAAACGTGGACAGTAGAGAAGCCCCAGCCAATG
AAGACGAAGATGCAGGAGAAGATTTCGATGAAAGTGAAAGATGAATACAGCG
ACAGAGATGAGAACATTATGAAGCCGGAGCCCATGGGAGATGCAGAAGAGA
GTGAAATGCCTTACAGCTATGCAAGAGAATACAGCGACTATGAAAGCATTAA
GCTGGAGAGACACGTGCCCTATGACAACAGCAGACCAACCAGTGGAAGAT
GAACTGCGACGTGTGCGGGTTATCCTGCATTAGCTTCAACGTCTTGATGGTTC
ATAAGCGAAGCCATACCGGCCGAACGCCCGTTCCAGTGTAATCAGTGCGGGGC
ATCTTTTACTCAGAAAGGTAACCTCCTCCGTCATATTAACTGCACACGGGGG
AAAAACCTTTTAAGTGTCACCTCTGCAACTACGCATGCCAAAGGAGAGATGC
GCTCACGGGACACCTTAGGACACATTCTGTGGAGAAAGCCGTACAAGTGTGAG
TTCTGCGGAAGAAGCTACAAGCAGAGAAGCTCCCTGGAGGAGCACAAAGGAA
CGCTGCCGAGCTTTTCTTCAGAACCCTGACCTGGGGGACGCTGCAAGTGTGG
AGGCAAGACACATCAAAGCCGAGATGGGAAGTGAGAGAGCTCTCGTCCTGG
ACAGATTAGCAAGCAATGTGGCTAAGCGAAAAAGCTCGATGCCTCAGAAATT
CATCGGTGAGAAGCGGCACTGCTTCGATGCCAACTACAATCCCGGCTACATG
TACGAGAAGGAGAACGAGATGATGCAGACCCGGATGATGGACCAAGCCATC
AATAACGCCATCAGCTATCTAGGGGCTGAAGCCTTCCGCCCCTTAGTCCAGA
CTCCGCCTGCTCCACCTCTGAGATGGTCCCAGTCATCAGCAGTGTGTACCCC
ATAGCACTTACTCGGGCCGATATGCCAATGGGGGGCCCCGCAGGAGATGGAAA
AGAAACGGATCCTCCTGCCAGAGAAGATCTTGCCTTCTGAACGAGGTCTGTC
CCCCAATAACAGTGCCCAGGACTCCACAGACACCGACAGCAACCACGAGGAT
CGCCAACATCTCTACCAGCAAAGCCACGTGGTCCTCCCCCAGGCCCGCAATG
GGATGCCTCTTCTGAAGGAGGTCCCTCGCTCTTTTGAACCTCAAGCCCCCT
CCCATCTGCCTGAGGGGACTCCATCAAAGTGATCAACAAAGAAGGGGAGGTGA
TGGATGTGTTTCGATGTGACCACTGCCACGTCTCTTCTCCTAGATTATGTGATG
TTCACCATCCACATGGGGTGCCATGGTTTCCGTGATCCCTTTGAGTGTAACAT
GTGTGGCTATCGAAGCCACGATCGCTATGAGTTCTCCTCTCACATCGCCAGAG
GAGAGCACAGAGCCATGTTGAAGTGAGCATCTGTCCTCAATGCGAGGGTCAA
CATTGTTTTTTAAAGCTGATGGTAGCCTTATCCAGTAGACTGAACTCAAACCC
ACCTCGAG

FIGURE 1

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1B. MOUSE AIOLOS PEPTIDE SEQUENCE

MEDIQPTVELKSTEEQPLPTESPDALNDYSLPKPHEIENVDSREAPANEDAGED
SMKVKDEYSRDRDENIMKPEPMGDAEESEMPYSYAREYSDYESIKLERHVPYDNS
RPTSGKMNCDCGLSCISFNVLMVHKRSHTGERPFQCNQCGASFTQKGNLLRHI
KLHTGEKPFKCHLCNYACQRRDALTGHLRTHSVEKPYKCEFCGRSYKQRSSLEE
HKERCRAFLQNPDLGDAASVEARHIKAEMGSERALVLDRLASNVAKRKSSMPQ
KFIGEKRHCFDANYNPGYMYEKENEMMQTRMMDQAINNAISYLGAEAFRPLVQ
TPPAPTSEMVPVISSVYPALTRADMMPMGAPQEMEKKRILLPEKILPSERGLSPNN
SAQDSTDTSNHEDRQHLYQQSHVVLQARNGMPLLKEVPRSFELLKPPPICLRD
SIKVINKEGEVMDVFRCDHCHVLFLDYVMFTIHMGCHGFRDPFECNMCGYRSH
DRYEFSSHIARGEHRAMLK

FIGURE 1(CON'T)

865020" 84E6T060

Ex7 → Activation domain

1 50
cAio PPLLLVPGEK RHCFDANYNP GYMYEKENEM MQTRMDQAI NNAISYLGAE
mAioGEK RHCFDANYNP GYMYEKENEM MQTRMDQAI NNAISYLGAE
mIkaGD KCLSDMPYDS .ANYEKE.DM MTSHVMDQAI NNAINYLGAE
cIkaDRLDLPYDA TTNYEKENEI MQTHVIDQAI NNAISYLGAE

51 100
cAio AVRPLVQTPP APTSEMVPVI SSVYPIALTR AD...MPNGA PQEMEKKRIL
mAio AC..LVQTPP APTSEMVPVI SSVYPIALTR AD...MPMGA PQEMEKKRIL
Chul SLRPLVQTPP G.SSEVVPVI SSMYQLHKPP SDGPPRSNHS AQD.AVDNLL
cIka SLRPLVQTPP V.GSEVVPVI SPMYQLHKPH GDNQTRSNT AQDSAVENLL

101 150
cAio L..PEKILPS ERGLSPNNSA QDSTDTSNH ED.RQHLYQQ SHVVLPOARN
mAio L..PEKILPS ERGLSPNNSA QDSTDTSNH ED.RQHLYQQ SHVVLPOARN
mIka LLSKAKSVSS EREASPSNSC QDSTDTSNA EEQRSGLIYL TNHINPHARN
cIka LLSKAKSVSS ERDASPSNSC QDSTDTSNN EE.RSGLIYL TNHIGPHARN

151 200
cAio GMPLLKEVPR SFELLKPPPI CLRDSIKVIN KEGEVMDVFR CDHCHVLFLD
mAio GMPLLKEVPR SFELLKPPPI CLRDSIKVIN KEGEVMDVFR CDHCHVLFLD
mIka GLA.LKEEQR AYEVLRAASE NSQDAFRVVS TSGEQLKVYK CEHCRVLFLD
cIka GIS.VKEESR QFDVLRAGTD NSQDAFKVIS SNGEQVRVYK CEHCRVLFLD

201 249
cAio YVMFTIHM.GCHGFRDPF ECNMCgyrsh DRYEFSSHIA RGEHRAMLK
mAio YVMFTIHM.GCHGFRDPF ECNMCgyrsh DRYEFSSHIA RGEHRAMLK
mIka HVMYTIHM GCHGFRDPF ECNMCgyhsq DRYEFSSHIT RGEHRYHLS
cIka HVMYTIHM.GCHGFRDPF ECNMCgyhsq DRYEFSSHIT RGEHRFHMS

YAS 5 = interaction domain
YAS 3 = interaction domain
YIZ = Ikaros dimerization domain

FIGURE 2

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1 50
aio
Ik1 MDVDEGQDMS QVSGKESPPV SDTPDEGDEP MPVPEDLSTT SGAQQNSKSD

51 100
aio
Ik1 RGMASNVKVE TQSDENGRA CEMNGEECAE DLRMLDASGE KMNGSHRDQG

101 150
Ik NSARGKMNCD VCGLSCISFN VLMVHKRTHT GERPFQCNQC
Ik1 SSALSGVGGI RLPNGKCLKCD ICGIVCIGPN VLMVHKRSHT GERPFQCNQC

151 200
aio GASFTQKGNL LRHIKLHTGE KPFKCHLCNY ACQRRDALTG HLRTHSVEKP
Ik1 GASFTQKGNL LRHIKLHSGE KPFKCHLCNY ACRRRDALTG HLRTHSVGKP

201 250
Aio YKCEFCGRSY KQRSSLEEHK ERCRAFLQNP DLGDAASV... EARH
Ik1 HKCGYCGRSY KQRSSLEEHK ERCHNYLESM GLPGMYPVIK EETNHNEMAE

251 300
Aio IKAEMGSERA LVLDRLASNV AKRKSSMPQK FIGEKRHCFD ANYNPGYMYE
Ik1 DLCKIGAERS LVLDRLASNV AKRKSSMPQK FLGDK..CLS DMPYDSANYE

301 350
Aio KENEMMQTRM MDQ.....
Ik1 KE.DMMTSHV MDQ

FIGURE 3

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Exon 3

IRHEEAPANEDEAGEDSMKVKDEYSDRDENIMKPEPMGDAEEMPYSYA
REYSDYESIKLERHVPYDNSRPTSGKMNCVCGLSGISFNVLMVHKRSHT

Exon 4

GERPFQCNQCGASFTQKGNLLRHIKLTGKPFKCHLCNYACQRRDALTGH
LRTHS

Exon 5

VEKPYKCEFCGRSYKQSSLEEHEKERCRAFLQNPDLGDA

Exon 6

ASVEARHIKAEMGSERALVLDRLASNVAKRKSSMPQKFI

Exon 7

GEKRHCFDANYPGYMEKENEMMQTRMMDQAINNAISYLGAEAFRPLVQ
TPPAPTSEMVPVISSVYPIALTRADMPMGAPQEMEKKRILLPEKILPSERG
LSPNNSAQDSTDTSNIEDRQHL YQQSHVVL PQARNGMPLLKEVPRSFEL
LKPPPICLRDSIKVINKEGEVMDVFRCDHCHVLFLL YVMFTIHMGCCHGRD
PFECNMGYRSHDRYEFSSHIARGEHRAMLK

3	4	5	6	7
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3	4	5	6	7
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alt	7
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FIGURE 4

A

Lipman-Pearson Protein Alignment									
kTuplet: 2; Gap Penalty: 4; Gap Length Penalty: 12		Seq2(1>508)							
Seq1(1>209)		mousealolos.protein							
human Aiolos protein AioC/hAio2									
(1>209)									
				89.5	1	1	1	209	
human Aiolos protein AioC/hAio2	ERDENVLKSEPMGNAEEPIPYSYSREYNEYENIKLERHVVSFSSRPTSGKMNCDCVGL	60							
	: RDNEN: K: EPMG: AEE: E: PYSY: REY:: YE: IKLERHV :: D: SRPTSGKMNCDCVGL								
mouse al los. protein	DRDENIMKPEPMGDAEESEMPYSYAREYSDYESIKLERHV-PYDNSRPTSGKMNCDCVGL	124							
human Aiolos protein AioC/hAio2	SCISFNVLNVHKRSHTGERPFQCNQCGASFTQKGNLLRHIKLHTGEKPFKCHLCNYACQR	120							
	SCISFNVLNVHKRSHTGERPFQCNQCGASFTQKGNLLRHIKLHTGEKPFKCHLCNYACQR								
mouse aiolos. protein	SCISFNVLNVHKRSHTGERPFQCNQCGASFTQKGNLLRHIKLHTGEKPFKCHLCNYACQR	184							
human Aiolos protein AioC/hAio2	RDALTGHLRTHSVEKPYKCEFCGRSYKQSRSSLEEHKERCRTFLQSTDPGDTASAEARHIK	180							
	RDALTGHLRTHSVEKPYKCEFCGRSYKQSRSSLEEHKERCRTFLQSTDPGDTASAEARHIK								
mouse aiolos. protein	RDALTGHLRTHSVEKPYKCEFCGRSYKQSRSSLEEHKERCRTFLQSTDPGDTASAEARHIK	244							
human Aiolos protein AioC/hAio2	AEMGSEALVLDRLASNVAKRKSSMPQKF	209							
	AEMGSEALVLDRLASNVAKRKSSMPQKF								
mousealolos. protein	AEMGSEALVLDRLASNVAKRKSSMPQKF	273							

FIGURE 5B

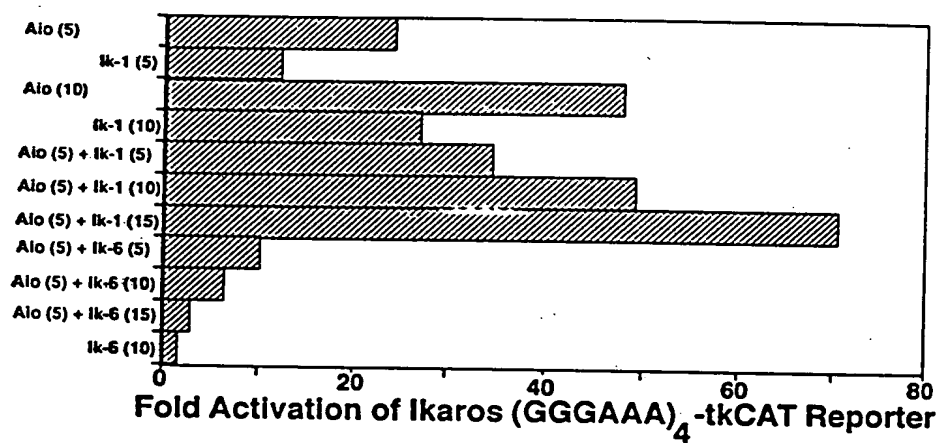


FIGURE 7

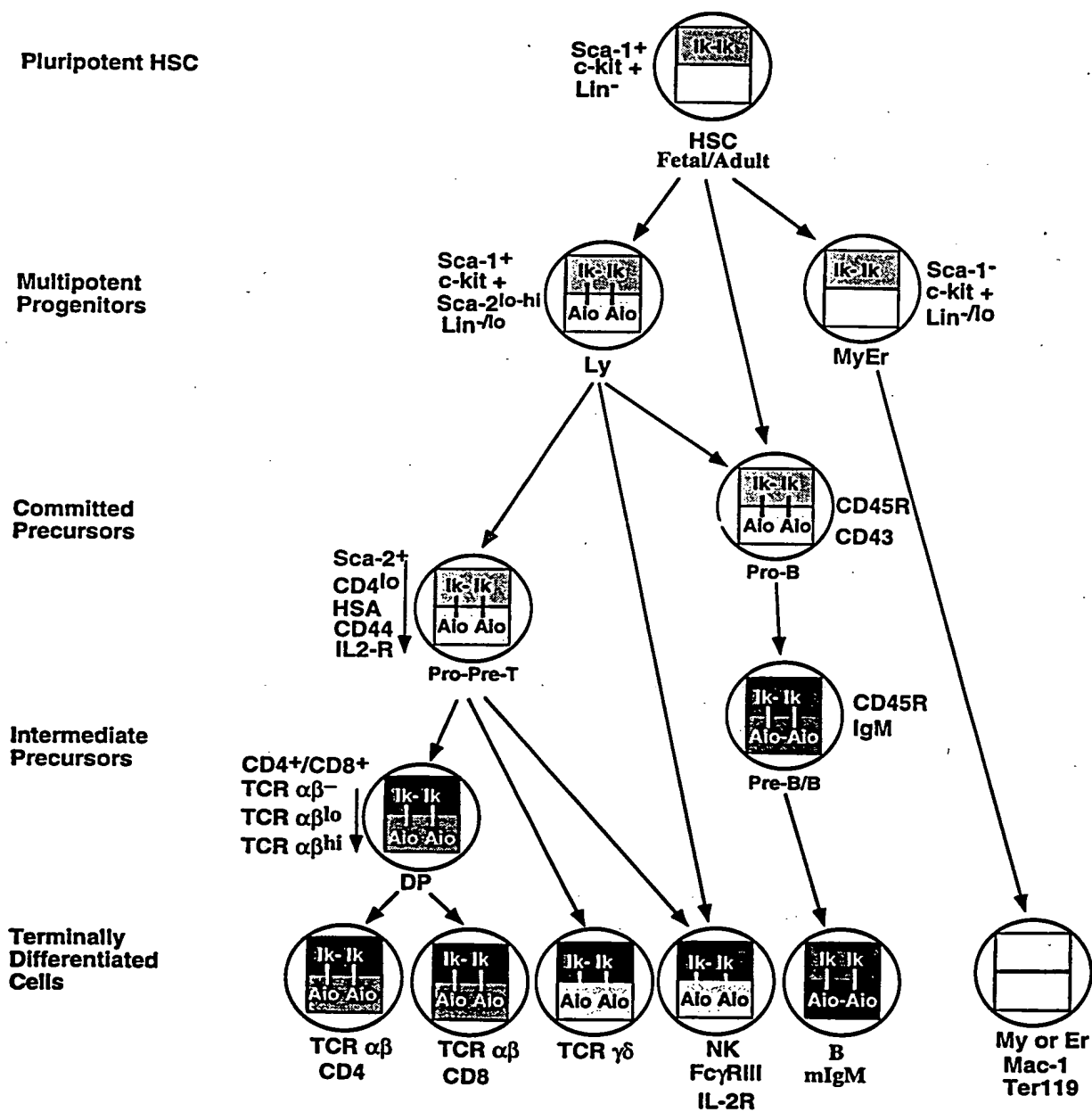


FIGURE 8

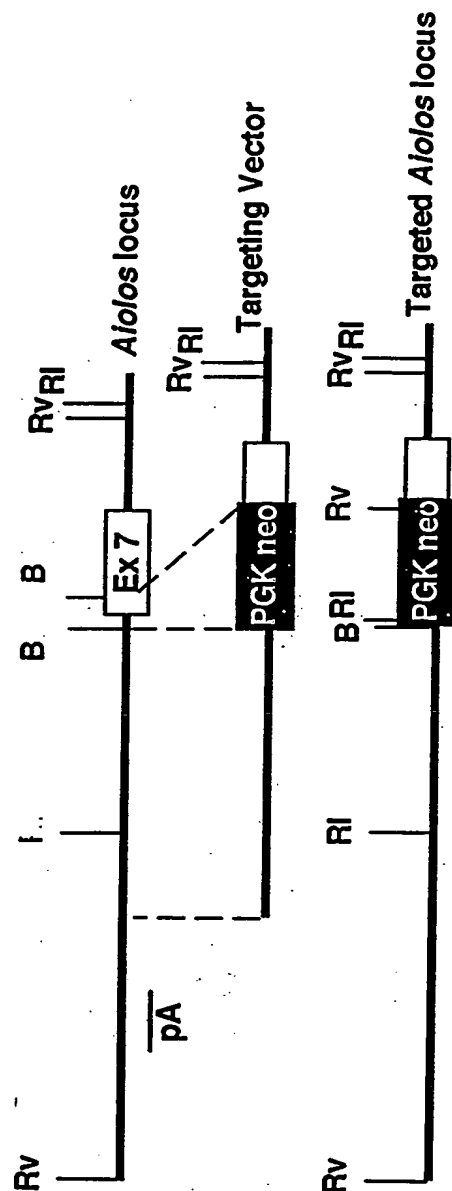


FIGURE 9